PORSF
11.3.125.1v1
03/01/88

MATERIAL SAFETY DATA SHEET

MAGNESIUM

Company	Issue Date	
RELIANCE STEEL & ALUMINUM CO. 2550 EAST 25TH STREET LOS ANGELES, CALIFORNIA 90058	MARCH 1, 1988	SHEET/PLATE AZ31B TOOLING PLATE AZ31B EXT SPEC GRADE AZ31B, AZ60A AZ61A, AZ80A, ZK60A EXT WELDING ROD AZ61A, AZ92A BILLET EXT, GALVOMAG®
Trade Name (Common Name or Synonym) MAGNESIUM	Emergency Phone Number 213-582-2272 OR YOUR LOCAL RELIANCE DISTRIBUTOR	
Chemical Name	Formula	DOT Identification Number NA

I. INGREDIENTS

NOTE PRODUCTS UNDER NORMAL CONDITIONS DO NOT REPRESENT AN INHALATION, INGESTION OR CONTACT HEALTH HAZARD.

BASE METAL, ALLOYING ELEMENTS AND METALLIC COATINGS	CAS #	% COMPOSITION BY WEIGHT (1)	OSHA PEL	ACGIH TLV (mg/m³) (2)	
BASE METAL	CAS#		OSHA PEL		
MAGNESIUM (Mg)	7439-95-4	BALANCE	15	10	
ALLOYING ELEMENTS					
ALUMINUM (Al)	7429-90-5	< 9	N.E.	10	
MANGANESE (Mn)	7439-96-5	< 1	5	5	(As Dust-Ceiling)
ZINC (Zn)	7440-66-6	< 6	N.E.	5	(As Fume)
ZIRCONIUM (Zr)	7440-67-7	< 1	5	10	

(1) % OF ALLOYING MATERIAL VARIES WITH GRADE OF MATERIAL (2) 1985 - 1986 ACGIH THRESHOLD LIMIT VALUE

II. PHYSICAL DATA

Material is (At Normal Conditions)	Appearance and Odor			
☐ Liquid ■ Solid ☐ Gas ☐ Other	SILVER - ODORLESS			
Acidity/Alkalinity pH - NA	Melting Point > 870 F Boiling Point NA F	Specific Gravity (H_2O = 1) < 2 Solubility in water (% by weight) NA		Vapor Pressure (mm Hg at 20 C) NA

III. PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	Hands, Arms and Body
NIOSH/MSHA APPROVED DUST & FUME RESPIRATOR SHOULD BE USED TO AVOID EXCESSIVE INHALATION OF PARTICULATES WHEN EXPOSURE EXCEEDS TLV'S	PROTECTIVE GLOVES ARE RECOMMENDED DURING HANDLING OF FINES EXPOSURE
Eyes and Face	**Other Clothing and Equipment**
SAFETY GLASSES OR GOGGLES SHOULD BE UTILIZED AS REQUIRED BY EXPOSURE	OTHER PROTECTIVE EQUIPMENT SHOULD BE UTILIZED AS REQUIRED BY THE WELDING STANDARD

IV. EMERGENCY MEDICAL PROCEDURES

IF EXPOSED TO EXCESSIVE LEVELS OF METAL FUMES, REMOVE TO FRESH AIR,

SEEK MEDICAL AID IMMEDIATELY.

EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES.

V. HEALTH/SAFETY INFORMATION

STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD
☒ INHALATION ☐ SKIN CONTACT ☐ SKIN ABSORPTION ☐ INGESTION

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese, and lead may cause metal fume fever, characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenza symptoms.

Subjecting zinc or alloys containing zinc to high temperatures (such as occurs during welding) will cause the formation of zinc oxide. Exposure to zinc oxide fumes or dusts can result in a flu-like illness called metal fume fever. Early symptoms may include a sweet or metallic taste in the mouth, dryness and irritation of the throat, and coughing. These symptoms may progress to shortness of breath, headache, fever, chills, muscle aches, nausea, vomiting, weakness, fatigue and profuse sweating. The attack may last 6-48 hours and is more likely to occur after a period away from the job.

SUSPECTED CANCER AGENT? ✓NO THIS PRODUCTS INGREDIENTS ARE NOT FOUND IN THE LISTS BELOW
YES FEDERAL OSHA NTP IARC

Fire and Explosion	Flash Point NA F	Auto Ignition Temperature NA F	Flammable Limits in Air Lower % Upper NA %	Extinguishing Media	MELTING FLUX, DRY SAND, METAL EXTINGUISHING POWDERS SUCH AS GI, MET-L-X
	Fire and Explosion Hazards: SEE ADDITIONAL INFORMATION			Extinguishing Media not to be used: DO NOT USE WATER OR HALOGEN ON DUST FIRES	
Reactivity	Stability ■Stable ☐Unstable	Incompatibility (Materials to Avoid): ACID, WATER. REACTS WITH ACID TO FORM HYDROGEN GAS IN FINELY DIVIDED FORM, WILL REACT WITH WATER & ACIDS TO RELEASE HYDROGEN			
	Conditions to Avoid: SEE FIRE AND EXPLOSION SECTION. SEE ADDITIONAL INFORMATION				
	Hazardous Decomposition Products: SEE FIRE AND EXPLOSION SECTION. SEE ADDITIONAL INFORMATION				

VI. ENVIRONMENTAL

Spill or Leak Procedures
NA

Waste Disposal Method
ACCORDING TO LOCAL, STATE AND FEDERAL REGULATIONS

VII. ADDITIONAL INFORMATION

Ventilation: Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV'S.
In welding, precautions should be taken for airborne contaminates which may originate from components of welding rod. Arc or spark generated when welding or burning could be a source of ignition for combustable and flammable materials. When heated in air to a temperature near its melting point, magnesium alloys ignite and burn with a white flame. Use of water on molton magnesium will produce Hydrogen gas and may cause an explosion.
SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Practice reasonable care in handling magnesium and magnesium alloy product forms to avoid product damage and/or personal injury. Store product in dry location. Wet, moist or high humidity storage conditions will lead to corrosion of the product. Store away from other combustibles. See National Fire Protection Association Bulletin NFPA 48, "Storage, Handling and Processing of Magnesium" for detailed storage information.